

Indian History in Perspective



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SECTION – 1

This essay will present a sweeping canvas of Indian history from ancient times to present day in terms of migration patterns, society, culture, science, technology, mathematics, agriculture and spirituality.

India is an ancient land. Yet most of our history books do not do any justice to the antiquity of our motherland and focus merely on the political history, especially of the last 1,000 years. Pre-history is considered separate from history proper and is taught, if at all, separately along with archaeology, geology, anthropology, molecular biology and so on. All these subjects deal with history in one way or the

other. But we are never presented an integrated whole.

In my opinion, school children should not be bothered only with details of Ashoka's *dhamma* or Minto Morely reforms or Akbar's day to day life or list of battles we have lost. The mere fact that Dharma *still* exists in India, despite so many battles we have lost, is proof that we have won much, *significantly more* battles than we have lost, but where is that talked about?

History has to be viewed and presented from multiple perspectives, especially when the education of impressionable young children are concerned. They should be taught geology, the history of humanity, the history of commerce, the history of science and math and so on. An all-round view needs to be presented, else we will end-up with young people who either hate India or are at best

indifferent to her past glory and miserable plight after 1500 years of savage invasions and being ruled by alien cultures.

This essay will thus attempt to present the history of India from multiple perspectives. It will present a sweeping canvas of Indian history from ancient times to present day in terms of migration patterns, society, culture, science, technology, mathematics, agriculture and spirituality. Before delving into the details we must understand a few concepts.

Genetics, Lineages and Haplogroups

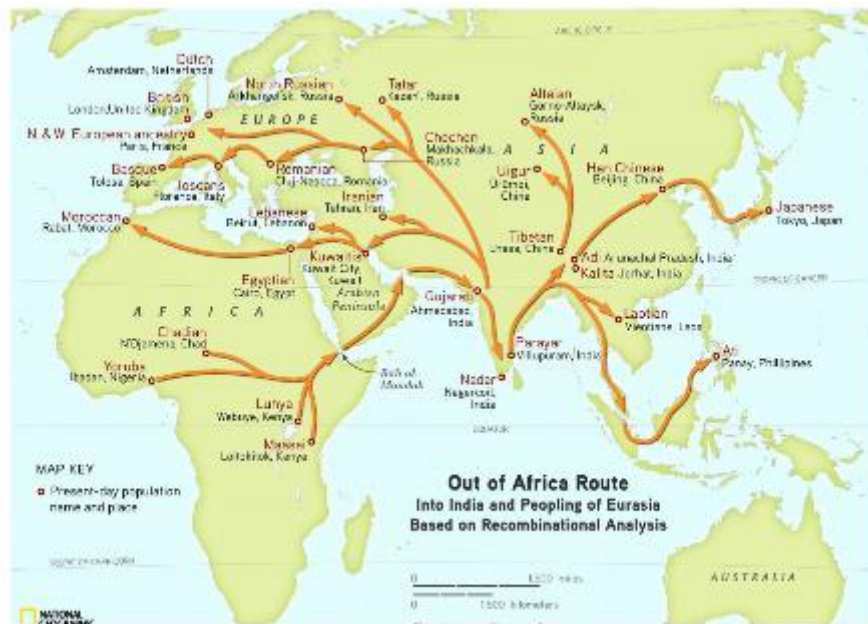
Genetics is the study of genes, which are made of DNA, the building blocks of all living beings. It is important to understand some basic terminology so that we can appreciate the implication of many cutting edge genetic studies.

In genetic terminology, a “haplogroup” is a group of individuals that share a common ancestor with a particular genetic mutation. A haplogroup pertains to a single line of descent which typically dates back several thousand years. In other words, a haplogroup is a large, extended family or clan, all of whose members have a shared ancestry. There are two types of haplogroups: Y-chromosome (patrilineal) haplogroups, and mtDNA (matrilineal) haplogroups. Haplogroups are identified by letters of the alphabet (A, B, C, etc.) and sub-groups are denoted by letters and numbers (A1, A1a, etc.). (Chavda, 2017)

Out of Africa Theory

According to this theory, anatomically modern humans originated in Africa. Around 70,000 years ago these people colonized the Eurasian landmass. Being

beachcombers they “expanded rapidly along the coast to India, and reached Southeast Asia and Australia by 50,000 years ago. The first great foray of our species beyond Africa had led us all the way across the globe” (1). Only 50 people left Africa for India, and the rest of the world was populated out of India.



However the Out of Africa Theory does not sufficiently explain many contradictory findings. In fact there are many hard genetic and other evidence which fly directly against

the face of the Out of Africa theory. However such evidence is either ignored or buried, and never cited by mainstream historians and scientists.

The issue is not so much as to what happened after say, 75,000 years ago, which is quite well documented. Rather it is the earliest human migrations and settlements, the fuzzy borderline between modern humans, archaic humans and other hominids like homo erectus, and the implication of such findings which challenges the Out of Africa model.

Aryans and Dravidians

Another important issue in the modern-day Indian context is the so-called Aryan-Dravidian divide. The Aryan Invasion Theory (AIT) and its various avatars form the under-pinning of history of Indian-subcontinent, especially from the standpoint

of South Asian specialists, linguists, Dravidian supremacists and leftist academicians. The three versions of this theory are as below.

Aryan Invasion Theory – Invading fair-skinned central Asian migrants (barbarians) brought Vedic religion and culture to India in 1500 BCE by conquering India and subjugating the dark-skinned locals, who were most likely Dravidians.

Aryan Migration Theory – This theory has gained currency in the last 25 years. According to this, small group of non-conquering migrants arrived in India and brought Vedic religion and culture to India in between 1700 BCE to 1400 BCE.

Aryan Trickle-in Theory – This version has gained currency in the last decade among linguists and left historians. A few small tribes of people, from Afghanistan area,

trickled-in to India from 1700 BCE and brought Vedic religion and culture to India.

This theory, in all its progressive forms, has been thoroughly discredited time and again because of the massive absence of any kind of scientific evidence of large-scale invasion or migration into India. However there is strong evidence for migration out of India from most ancient times. Moreover what started out as terms indicating two language families, Aryan and Dravidian, took racial connotations and eventually became, especially over the last 100 years, a political weapon and has been the cause of immense dispute among communities and resulted in Dravidian politics in Tamil Nadu, the anti-Brahmin movement and an unnatural North-South divide in India.

With this background, let us delve right in.

300,000 B.P.

Primitive man lived in central India near Narmada river basin in what is today known as Madhya Pradesh. He is referred to as Narmada Man and teams from United States and France, have identified the original Narmada skull as actually that of a human woman (“Homo Sapiens”) and not as male Homo Erectus as thought previously.

In 1982 a fossil hominid calvaria was found in a middle Pleistocene deposit in the central Narmada valley of Madhya Pradesh, India, and was assigned to the new taxon Homo erectus narmadensis. Subsequently, morphometric studies of the specimen were conducted by two separate research teams from France and the United States, both in collaboration with Indian colleagues. Results of the most recent study, which includes morphometric and comparative investigations, lead to the conclusion that “Narmada Man” is appropriately identified

as Homo sapiens. (Kennedy, Sonakia, Chiment, & Verma, 1991)

An interesting find was that below the hominid fossil were found stone tools, bones of horses, boars, hippopotamus and an extinct elephant *Stegodon* dated anywhere between 800,000 years to 10,000 years ago. (Lal, 2016, p. 365)

It must be noted that horses became a political animal during the era of British Indology and continues to generate even today heated polemics among AIT proponents and opponents. Its absence in pre-Vedic India (before 1500 BCE), is supposed to indicate that horse-riding Central Asian Aryan's invaded India. Yet we do have well-documented but unpublicized ancient horse remains at least 6,000 years older than the supposed AIT (considering the most unlikely conservative

scenario)! In fact a much earlier date for domesticated horses in central India is known, as we will see a bit later.

150,000 B.P.

Archaic humans were living as far south as what is Chennai today. A 160,000 years old skull of a 5 year old baby (Laterite Baby) was found, which was identified as (archaic) Homo Sapiens. Humans migrated from India to Zambia in south central Africa 160,000 years ago. The skull of the so-called Rhodesia Man has Taurus Angularis (part of skull bone) which is absent in all other older African skulls but is present in Narmada Man, and in all modern humans.

Narmada Man, Laterite Baby and Rhodesia Man pose serious challenge to the Out of Africa theory. If we consider the combined evidence of the above, which is hard scientific evidence, it would mean that

indigenous archaic modern humans existed in India at least by 300,000 BP and were staying as far south as Chennai. Additionally as early as 160,000, an Indian had somehow migrated to central Africa and died there.

Yet as per the prevailing Out of Africa Theory, modern humans originated only 80,000 years ago and migrated from Africa to India.

This could mean two things:

Ancient humans had originated in India and had lived in India for a long time. Then somehow they all died out by 150,000 years ago. Then again they somehow evolved out of Africa, and then 50 Africans came to India, and then these Indians colonize the whole world. Or,

Humans did indeed originate in India, and evolved to modern humans, and that there were back and forth migrations between

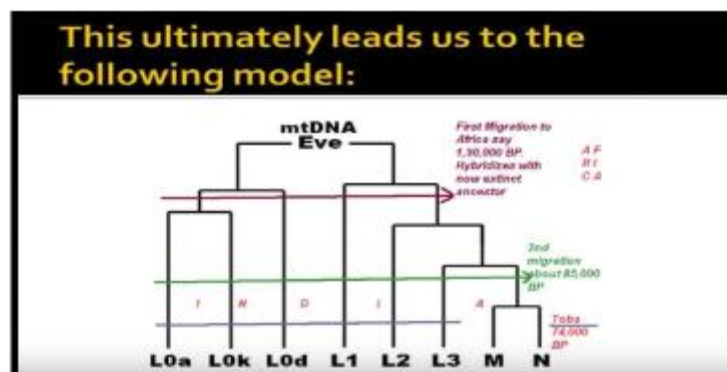
Africa and Asia. The Out of Africa could then be a small but important part of the human journey, a sub-set of a potentially new theory and may have to be modified based on new evidence.

These are, after all, some serious questions which have significant implications as to how we view history of humans. Yet in the usual opaque way in which a politically motivated western academia works, they have simply ignored and buried any evidence which challenges the Out of Africa theory.

I leave it to you to decide which of the above conclusions seem more logical. I personally find the second alternative more convincing. In this regard, P Priyadarshi has given a compelling alternative for earlier periods which I present below. For latter periods, say after 75,000 BP, we have relied

on the mainstream narrative as documented by National Geographic genographic project and Stephen Oppenheimer's works.

Mitochondrial DNA Eve was most likely an Indian and lineages L0, L1, L2, L3, M and N all probably originated in India. In other words, anatomically modern humans originated in India and not in Africa. Then there was a migration of L0 and L1 lineages to Africa 130,000 years BP where they hybridized with a now extinct ancestor and became a different people. (Priyadarshi, 2012)



90,000 B.P.

Again around 85,000 BP, another set of Indians L0 (L0a, L0k, L0d), L1, L2 and L3 (prior to split of M & N) migrated to Africa. Other Indians migrated towards South East Asia following the coast around Borneo till they reached South China.

75,000 B.P.

In 74,000 BP, Mount Toba eruption occurred which covered Indian subcontinent in ash up to 5m deep. Global temperatures cooled down drastically and a “volcanic winter” was caused. Many modern humans in Indian subcontinent died of the severe cold and from resulting droughts and deforestation. L0, L1, L2 and L3, died out in India, while they continued to exist in Africa. It is believed that only 1,000 people survived in India.

According to the Toba catastrophe theory, a massive volcanic eruption changed the course of human history by severely reducing the human population. This may have occurred when around 70–75,000 years ago the Toba caldera in Indonesia underwent a category 8 or “mega-colossal” eruption on the Volcanic Explosivity Index. This may have reduced the average global temperature by 3 to 3.5 degrees Celsius for several years and may possibly have triggered an ice age. This massive environmental change is believed to have created population bottlenecks in the various species that existed at the time; this in turn accelerated differentiation of the isolated human populations, eventually leading to the extinction of all the other human species except for the branch that became modern humans(2).

After this repopulation of Indian sub-continent took place. Many of the Indians who were now settled in Timor and Borneo migrated to Australia and New Guinea respectively. Some people headed back from south-east Asia to eastern and north-eastern India.



50,000 B.P.

Around 52,000 years ago there was a significant warming of world climate, and Indians migrated through Punjab, Sindh and Multan north-westwards towards West Asian Levant region and head towards

Europe via Bosphorus. Indian population started diverging into two groups, the Ancestral North Indians and Ancestral South Indians and present-day Indian population is a mix of ancient north and south bearing the genomic contributions from these two distinct ancestral populations.

At a later stage, 40,000 years ago, the ancient north Indians emerged which in turn led to rise in numbers here. But at some point of time, the ancient north and the ancient south mixed, giving birth to a different set of population. And that is the population which exists now and there is a genetic relationship between the population within India(3).

Modern Indians are thus descendants of two ancient founding populations, the older Ancestral North Indians (ANI) and the latter Ancestral South Indians (ASI). This genetic

branching has however now become a major political issue and manifests itself as:

North South divide

Aryan-Dravidian divide

However, we must understand that the ANI-ASI divide is merely a genetic branching of two ancient population lineages. It is not a static and eternal divide that modern Tamil and Dravidian politicians would have us believe. From ancient times till modern day, there has been a constant churn of people all over India. People from North have gone to the south, and people from South have gone to the east and so on. There were of course periods of extreme climatic conditions when there was no interaction between different groups, and again once conditions became amenable, there was movements again. An Indian today is thus a mixture of ANI and ASI “types”. North Indians have more ANI

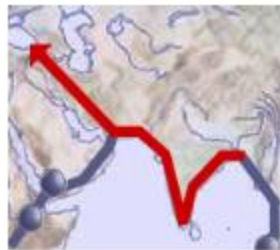
and south Indians have more ASI. It has nothing to do with looks, skin color, caste or racism. Noted historian and economist Sanjeev Sanyal says:

The Indian reader may be tempted here to think of the Ancestral South Indians (ASI) as Dravidians and the Ancestral North Indians (ANI) as Aryans. While I have nothing against the words themselves, one should be cautious about using the terms as they are often used in the context of bogus nineteenth century racial theories. The ANI and ASI are just genetic cocktails and not 'pure' races. Moreover we are dealing here with Stone Age bands and not horse-drawn chariots, cities and iron weapons that were said to be part of the Aryan-Dravidian rivalry. (Sanyal, 2016, p. 29)

In the meantime, Neanderthals, a violent people who lived in Europe (and who rarely

lived beyond 35 years of age), began to become extinct around 40,000 years ago, after anatomically modern humans had reached the continent but not before hybridizing with them and contributing to the European gene-pools.

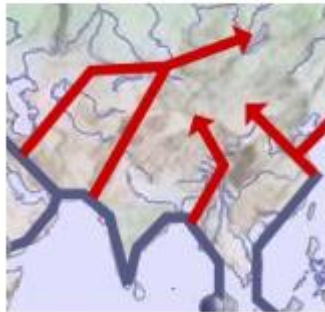
The inescapable conclusion is that all Europeans today are essentially Pakistani Punjabi in origin with some Neanderthal genes. Let this sink in for a moment.



40,000 B.P.

By now humans of Punjabi origin had moved into Hungary and Austria. (45,000 BP) and into rest of Europe. People from Assam and north-eastern India and Indo-

China region move towards Tibet and then towards China. The implication is that the oldest Tibetans and Chinese are Assamese. Another wave of erstwhile Indians now migrated from South China towards mainland China. Another wave of West Asians and Punjabis and Sindhis, headed towards Central Asia and eventually moved towards Siberia.



30,000 B.P.

Bhimbetka Caves in Madhya Pradesh located in northern fringes of the ancient Vindhya ranges are home to the extraordinary rock shelters and paintings.

Executed mainly in red and white, with the occasional use of green and yellow with themes taken from the everyday events of eons ago, the scenes usually depict hunting, dancing, horse and elephant riders, animal fights, honey collection, decoration of bodies, disguises, masks and different type of animals etc. It depicts the detail of social life during the long period of time, when man used to frequent these rock shelters. Animals such as bison, tiger, rhinoceros, wild boar, elephants, monkeys, antelopes, lizards, peacocks etc. have been abundantly depicted in the rock shelters. Popular religious and ritual symbols also occur frequently(4).

Thus domesticated horse was known as early as 35,000 BP because there is a seated figure on a horse. Again this flies against the face of the so-called Aryan Invasion Theory according to which Aryan's from Central

Asia introduced horses (along with Sanskrit, racism and caste system) to Indian-subcontinent.



In parallel, people from Indian mainland reach Andaman and Nicobar Islands, and go on to become the Jaroa and Onge tribes. Around 25,000 years ago there was a land bridge between Asia and North America. Different groups of population merged at the Bering Strait and became future Americans. Thus Native Americans or Red Indians as they were called earlier are indeed Indians.

20,000 B.P.

Prior to this there was a common Mesolithic language in India with regional variations. However during the last Glacial Maximum (23,000 to 19,000 BP), due to extreme climatic conditions Indian sub-continent got divided into three zones shown below.

Extreme isolation of Indian people into three groups led to linguistic differentiation and formation of three language families, the Indo-European, Dravidian and Austro-Asiatic. (Priyadarshi, 2012)



Interestingly, around 100 years ago, the great Rishi Sri Aurobindo, who himself was

a polyglot and master linguist had realized, based on his extensive study of the languages and aided by his yogic intuition, that Sanskrit and Tamil in fact derived from an earlier mother tongue which is now lost, but which survives as a spiritual substrate in both these language families.

For on examining the vocabulary of the Tamil language, in appearance so foreign to the Sanskrit form and character, I yet found myself continuously guided by words, or families of words supposed to be pure Tamil, in establishing new relations between Sanskrit and its distant sister, Latin, and occasionally between the Greek and the Sanskrit. Sometimes the Tamil vocable not only suggested the connection but proved the missing link in a family of connected words. And it was through this Dravidian language that I came first to perceive what seems to me now the true law, origins and,

as it were, the embryology of the Aryan tongues...The possibility suggests itself that they may even have been two diversions, or families derived from one lost primitive tongue (5).

The immediate implication is that the so-called Aryan-Dravidian divide is without any merit or substance. Incidentally, Indian astronomers started observing the sky minutely, and recording the position of stars as early as 24,000 BP. Raj Vedam of Indian Historical Awareness and Research (IHAR) quotes from Chapter 230, Verses 8-11 of Mahabharata, Vana Parva where it is mentioned that Kritikka nakshatra was at summer solstice, which happened 23.8-22.8k years ago.

This means that Indian sages have been observing the skies from 24,000 years ago. This is a staggering amount of time, that

completely belies everything that we have been taught! Our popular romantic sentiment is that 24,000 years ago there were cave men who had clubs and were beating each other on the head... running around and grunting “ugghh ... uggh... uggh”, those kind of things. But here you have a complex bunch of observations happening 24,000 years ago. So there is something wrong with the narrative that has been forced-fed (to us).” (Vedam, 2016)

Conclusion

Over the ages we have lost and rediscovered our knowledge systems many times. Yet every time we have managed to regain our knowledge but never in the same way as before. Like a Banyan tree we have spread and survived. Our roots are all around. Our history is not a book to be dusted and kept in a shelf. Our history and traditions live

through each one of us. Every moment of our lives is a reflection of our ancient history.

Children should be taught this history. The history of human beings, the history of plant and animals in Indian subcontinent, the history of mathematics, the history of science and technology and the history of politics, all these should be taught to them. For impressionable young minds, a positive and uplifting, broad sweeping canvas is necessary so as to produce confident future Indians who can create an inspiring future for mankind at large.

Images

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SECTION 2

In the previous part we had discussed how Indians had peopled and colonized the world. We had started out by pointing out the flaws of teaching only political history to young children in India, and on why we need to have a multi-faceted view of history encompassing archaeology, geology, genetics, politics, science and technology. We had discussed the dominant Out of Africa theory (OAT), which posits that humans originated in Africa, then migrated to India and from India they populated the rest of non-African world and also some parts of Africa. But it was also shown that there are many findings like Narmada Man skull (300,000 Before Present [BP]), Laterite Baby skull (150,000 BP) near

Chennai and Rhodesia Man, which squarely contradict the OAT, and instead points to the origin of humans in Indian subcontinent. Starting from earliest times to 20,000 BP, Indians had spread to Europe, China, Australia and Americas and created human colonies and settlements.

Today the word “colony/ colonized” has assumed a negative connotation owing to Europe’s and especially Britain’s barbaric and brutal conquest and subjugation of other cultures during the last 200-300 years. This is similar to the words like Arya or Swastika, which are today associated with the dreaded Nazi pogrom of Hitler, or a word like Dravida, which is associated with Tamil separatism and militancy, but whose etymology and non-recent usage have been quite different. We must understand that the word “colony” is from the old Latin term colere or “cultivate”, the Sanskrit cognate of

which is the root char (graze). When cattle grazes, there is nothing violent or destructive; it very gently moves from field to field until it is satiated or prevented by fences or by the cow-herd. Our ancestors indeed colonized the world in the same way by creating human colonies where none existed earlier. It was not a planned movement. Wave after wave people expanded in different directions, spread, intermingled and created human clusters, which eventually became societies, nations and civilizations. In this part we focus on how Indians civilized the world after having colonized them.

35,000 to 20,000 BP

Evidence suggests that people lived in quasi-sedentary settlements across different parts of Indian sub-continent, and for food they depended on gathering of wild edible

cereals, fish, vegetables, fruits and animal meat. They had knowledge of making fire for cooking and for production of artifacts. They were quite conversant with the knowledge of processing vegetal products like wild grains and catching fish using net-like stone structures.

The Upper Palaeolithic populations occupied varied ecological settings – arid zones in the north-west India, semi-arid zones in north and central India and humid to sub-humid regions in south-east India. These include hilltops, hill slopes, foothill areas, plains, plateaus in woodland, savanna woodland and thorny thicket zones near small stream courses as also away from the major rivers in the forested hills like the Nallamalais of the Eastern Ghats where the source of water is mainly springs(1).

An interesting find is the evidence of worship of Devi Mata (Mother Goddess), which continues in an unbroken tradition till today, and was quite popular in North-Central India by this time. This is based on findings like those from Upper Palaeolithic level of the Belan Valley, and a shrine at Upper Palaeolithic/Epipalaeolithic site at Baghor I in Son Valley. (Misra, 2006) The Belan Valley figurine in fact bears remarkable similarity with mother Goddesses figures from West Asia and Europe.

The face is featureless, a triangular formation, the trunk stick-like with a pointed, triangular portion for the legs, and probably the extremity broken. The pendent breasts and the broad loins definitely indicate that this is a female figurine. It bears a remarkable affinity in general with the female figures regarded as Fertility or

Mother Goddesses from Western Asia and Eastern and Western Europe. When we find that the C-14 dating places this unique figure in the same general time bracket of 20,000-15,000 B.C it raises vital questions of culture-contacts and diffusion(2).

Kethavaram in Kurnool District of South India is home to rock art, starting from palaeolithic to recent times and shows “an evolving trend – from the realistic drawings of large deer by hunter-gatherers, through the symbolic humans of the Iron Age to the hand-prints of more recent pilgrims and garish life-size modern scarecrows”(3).

During this time, India was home to a huge variety of animals, flora and fauna, many of which have become extinct today. For example, ostrich, the flightless bird native to Africa, inhabited India about 25,000 years ago. Several geologists and archaeologists,

have over the years found ostrich egg shell pieces in India, mostly in Rajasthan and Madhya Pradesh (4) .

15,000 BP

The Y-chromosomal (patrilineal) haplogroup R1a1a (also known as R-M17), one of the most important global male lineages found in 15% of humanity, widespread in Europe, Russia and India, is closely associated with the spread of the Indo-European language families and high culture. For reasons which have little to do with science, it has been associated with the advent of the so-called Aryan culture in Indian sub-continent and the so-called Sanskritization of India and stratification of Indian society. However studies have shown that the haplogroup R1a1a in fact originated in India around 15,000 BP or earlier and was spawned by a single Indian male who lived

around that time. As (Chavda, 2017) says,
“The family that conquered the world,
originated in India.”

In fact, studies like Sengupta (2006),
Underhill (2009), Kivisild (2003), and
Fornarino (2009) demonstrate that R1a1a is
in fact observed with high frequency in a
number of demographic groups across
castes.

West Bengal Brahmins (72%) to the east

Chitwani Hindus of Nepal (69%) in the
north-east

Khatris (67%) in the north

Konkanastha Brahmins (48%) to the west

Manipuris (50%) to the north-east

Punjabis (47%) to the north-west

Iyengar Brahmins (31%) in the south

Tribal South Indians like Chenchu Adivasis (26%), Valmiki of Andhra Pradesh, Kallar of Tamil Nadu

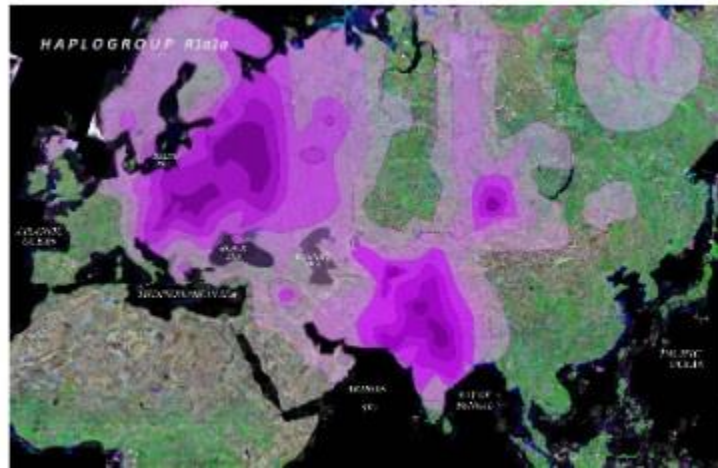


Image Source: <http://indiafacts.org/aryan-invasion-myth-21st-century-science-debunks-19th-century-indology/>

Rock art in Ramachandrapuram in Telangana dated to 12,000 BP has shown Hindu icons and motifs like humped bull, other animals and a geometric figure (circle with a trident symbol).

10,000 BP / 8000 BCE

By 10,000 BP (~8000 BCE), the quasi-sedentary lifestyle of north-central Indians eventually lead to the indigenously developed agriculture, as is evident from radio-carbon dating of excavations of various neolithic sites in Belan Valley (near Allahabad), Adwa Valley of Mirzapur District and other regions of northern India (5).

The combined testimony of the available C14 dates obtained from Koldihwa, and Tokwa in the North-Central India and Jhusi and Lahuradeva in the middle Ganga plain would push the antiquity of the Neolithic culture in the North-Central India and the middle Ganga plain around 8th millennium BC.

...the emergence of the Neolithic culture in the north-central India was not a result of

some external stimuli, but it was indigenous in character. Its genesis may be traced back to the Upper Palaeolithic culture of the area. (Misra, 2006)

On the north-western front of Indian sub-continent, Bhirrana and other Saraswati Sindhu (Harappan Civilization) sites on the bank of the now defunct Saraswati river (an extension of Ghaggar river in the Thar desert) became popular centres of human habitation by 7000 BP (5000 BCE) and became full-fledged cultural zones.

Bhirrana was part of a high concentration of settlements along the dried up mythical Vedic river valley ‘Saraswati’, an extension of Ghaggar river in the Thar desert. Isotope and archaeological data suggest that the pre-Harappans started inhabiting this area along the mighty Ghaggar-Hakra Rivers fed by intensified monsoon from 9 to 7 ka BP. The

monsoon monotonically declined after 7 ka yet the settlements continued to survive from early to mature Harappan time. (Sarkar, et al., 2016)

9,000 BP / 7000 BCE

Now we will touch upon an issue, which is supposedly the worst aspect of Indian history, the so-called lack of historical sense of Indians. This has been a complaint for the past 200 years of Western historians, Indologists and their modern day successors, the eminent leftist historians of India, that not only did Indians not maintain records, they also over exaggerated events and fudged data. Yet according to ancient credible Greek and Roman sources like Pliny, Megasthenes and Arrian who thrived between 50 BCE to 200 CE, ancient Indians were very particular in maintaining genealogical and dynastic records. If not the

names, they maintained generation count quite accurately. Pliny gave 6451 years for 154 kings before him, Arrian gave 6042 years for 153 kings (6) and Megasthenes mentions 138 kings between the oldest recorded king and Chandragupta Maurya. While we are not concerned with exact dates, it is evident that ancient Greeks and Romans, knew for a fact that Indians had been diligently recording historical data since 6500 BCE or 9500 years BP.

Dentistry as a medical science was quite common 9000 years ago, and ancient Indian dentists not only performed simple drilling, but also complex procedure to hollow out a cavity deep inside the tooth using sophisticated technological instruments like drills tipped with shards of flint. According to Clark Spencer Larsen, an anthropologist at Ohio State University in Columbus, “The finding provides clear and compelling

evidence that earlier people had knowledge of manipulation of dental hard tissues in living people.”(7)

The implications are truly mind-boggling. At least by 9,000 years ago, India had a reasonably well-developed political system, a well-defined system for recording such data and well-engineered systems for transmitting such information over a span of thousands of years! Medical science was also quite developed and dentistry was thriving. This is not surprising as earlier we have seen how Indian astronomers had been diligently observing and documenting the skies for 24,000 years.

8,000 BP / 6000 BCE

Mehrgarh in Baluchistan has shown evidence of continuous cultural development starting from at least 7000 BCE with the domestication of wheat, barley and millets

and by 6000 BCE there is evidence of organized agrarian societies and a granary. Rakhigarhi in Haryana, the largest Saraswati-Sindhu site, also shows continuous settlement from 6500 BCE. Copper became common by 6000 BCE (8).

Sivatherium (“Shiva’s beast”), an extinct genus of giraffid, a giraffe-like creature with two pairs of horns was once common in central and western India. So was the aardvark, now found only in Africa. Both these creatures became extinct by 8000 YBP with the expansion of human societies (9).



7,000 BP / 5000 BCE

The earliest astronomical observatory in Indian sub-continent dated 5000 BCE was built in Mudumala village in Telangana. The observatory spread out in about 80 acres of land consists of about 80 big menhirs (upright standing stone) over 12 feet, and about 2000 alignment stones of about 1-2 feet high. It is the only megalithic site in India, where a depiction of star constellation has been identified on a square table-like rock with a flat slanting top. According to Dr K.P. Rao, “This appears to have been deliberately planted by the megalithic people to plot the Great Bear constellation, also known as Ursa Major and referred to as Saptarshi Mandala in Indian astronomy.”
(10)

A cup-mark depiction of Ursa Major was noticed on a squarish stone planted vertically. About 30 cup-marks were arranged in a pattern similar to the

appearance of Ursa Major in the sky. Not only the prominent seven stars, but also the peripheral groups of stars are depicted on the menhirs (11).

Wild rice cultivation appeared in the Belan and Ganges valley regions of northern India as early as 5000 BCE and by this period agricultural communities had become quite widespread in Kashmir region. Irrigation practices began to become common by 4500 BCE in north western Indian subcontinent. Copper metallurgy became common in north-west India by 4500 BCE. India was the earliest known civilization to mass produce zinc on an industrial scale and India was known to have started extracting zinc as early as 4th millennium BCE.

6,000 BP / 4000 BCE

The Rig Veda, which is considered to be the oldest extant scripture of the Hindus was

composed by the people known as Puru and specifically by the sub-tribe of Bharata, who were inhabitants of the core Rigvedic area of the Vedic Aryans, Haryana and adjacent areas of western Uttar Pradesh. The other tribes were the Anu to their North (Kashmir, etc.), the Druhyu to their West (present-day northern Pakistan), the Yadu to their South-West (Rajasthan, Gujarat, and western M.P.), the Turvasu to their South-East (eastern M.P. and Chhattisgarh) and the Ikshvaku are placed to their East (eastern U.P, northern Bihar) (12).

According to Shrikant Talageri's extensive research, the earliest layer of the Rigveda, corresponding to the composition of the books 6, 3 and 7 of the Rig Veda was composed well before 3000 BCE. The early books refer to north-central Indian-subcontinent geographic landmarks, artifacts and animals all of which have very

pronounced (indigenous) Indo-European names, with absolutely no evidence that they ever had any other prior identity. (Talageri, 2016):

Gaṅgā/Jahnāvī, Yamunā,
Dṛṣadvatī/Hariyūpīyā/Yavyāvatī, Āpayā,
Sarasvatī, Śutudrī, Vipāś, Paruṣṇī and
Asiknī rivers

place names Kīkaṭa, Ilāspada (also called
vara ā prthivyā or nābhā prthivyā, i.e. “the
best place on earth” or “the centre of the
earth”) and lake Mānuṣā

animals like the buffalo, the gaur (Indian
bison), the elephant, the peacock and the
spotted deer

One of the earliest reference for migrations
out of India is that of the Druhyu’s, which
had commenced well before the composition
of the Rig Veda. The Druhyu initially

occupied the region comprising of present-day northern Pakistan and eventually they moved out into Afghanistan and beyond the pale of Indian civilization proper. One branch of the Anava then occupied the erstwhile territory of the Druhyu and continued to be residents of Punjab till latter times (13).

Haryana was at that time considered to be one of the best places to live, known variously as Vara ā Pṛthivyā (the best place on earth) and Nābhā Pṛthivyā (the navel/centre of the Earth) in the Rig Veda and as Vara in the Avesta, the sacred book of the Zoroastrians. On the eastern front, Varanasi was already an important centre of human habitation.

According to a study by seven departments of IIT Kharagpur in collaboration with the British Geological Survey, the holy town of

Varanasi has been a continuous human settlement for at least the past six millennia. One of the aims of the study was to understand how Varanasi has been able to maintain continuity as a living civilization, unlike comparable seats of human settlement in the world.

The study was also able to dispel many myths and establish the veracity of some Hindu lore. For example, the geo-exploration established the existence of “mythological” Naimisharanya, a forest that finds mention in the Vedas and in the Kashipurana (14). The Ganges and the Sarasvati were already very important and sacred rivers for the civilizations along its banks.

The oldest Book 6 refers only to the Sarasvati (which is deified in three whole hymns, VI.61, VII.95-96, and in 52 other

verses in the three Early Old Books) and to the rivers east of it: in VI.45.31 the long bushes on the banks of the Gaṅgā figure in a simile (showing their long acquaintance and easy familiarity with the topography and flora of the Gaṅgā area) ... The next Book 3 refers in III.58.6 to the banks of the Jahnāvī (Gaṅgā) as the “ancient homeland” of the Gods. In III.23.3-4, it remembers the establishment of a perpetual sacred fire by Devavāta, a far ancestor of the Rigvedic king Sudas, at Iḷaspada (in Haryana) on the eastern banks of the Sarasvatī. (Talageri, 2016)

A landmark event during this period is the dāśarājña battle (so-called Battle of the Ten Kings) which described as being fought by Sudās, to the east by the Paruṣṇī River in Punjab and coalition of ten Anu tribes, to the west by the basin of the Asiknī River. The Purus were the victors in the war and drove

the other tribes (mostly Iranian) westwards. This is perhaps the first recorded Indo-Iranian conflict and the battle ground was Western Punjab (today's Pakistan) and the oldest record of Proto-Indo European migration. In a way this battle can be linked with the spread of Indo-European Language families from the original homeland in Indian-subcontinent. I am producing Shrikant Talageri's list below, which shows the entire sweep of areas extending westwards from the Punjab to southern and Eastern Europe, in an almost continuous geographic belt. (Talageri, 2017)

(Avestan) Afghanistan: Proto-Iranian:
Sairima (Śimyu), Dahi (Dāsa).

NE Afghanistan: Proto-Iranian:
Nuristani/Pišācin (Viṣāṇin).

Pakhtoonistan (NW Pakistan), South
Afghanistan: Iranian: Pakhtoon/Pashtu
(Paktha).

Baluchistan (SW Pakistan), SE Iran: Iranian:
Bolan/Baluchi (Bhalāna).

NE Iran: Iranian: Parthian/Parthava
(Pr̥thu/Pārthava).

SW Iran: Iranian: Parsua/Persian
(Parśu/Parśava).

NW Iran: Iranian: Madai/Mede (Madra).

Uzbekistan: Iranian: Khiva/Khwarezmian
(Śiva).

W. Turkmenistan: Iranian: Dahae (Dāsa).

Ukraine, S, Russia: Iranian: Alan (Alina),
Sarmatian (Śimyu).

Turkey: Thraco-Phrygian/Armenian:
Phryge/Phrygian (Bhṛgu).

Romania, Bulgaria: Thraco-
Phrygian/Armenian: Dacian (Dāsa).

Greece: Greek: Hellene (Alina).

Albania: Albanian: Sirmio (Śimyu)

Conclusion

We have briefly surveyed the period from 35,000 YBP to 6,000 YBP (4000 BCE).

What is quite evident is that Indian history is not as drab and dull as our history books portray it. Neither is it only about Indus Valley and Vedic civilization. The presence of Mother Goddess figurines in different parts of India, the prevalence of Hindu motifs in rock arts, and the decidedly Indo-European names of Indian rivers in Rig Veda, point to a long indigenous development of Hindu tradition in India. The spread of Indo-European language happened out of India, and there is enough

genetic as well as literary evidence to support this.

Agriculture as well as metallurgy developed indigenously in India during very early dates. However the expansion of human settlements and civilization in India also led to the extinction of some animals, flora and fauna. And these are some of the learnings which our present generation needs to recall during this modern age of complex living and unsustainable practices. We should take inspiration from the good, but we must be cautious against repeating the bad.

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3.

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4. According to a 2017 study conducted by Centre for Cellular and Molecular Biology and IIT

Roorkee.<http://indianexpress.com/article/technology/science/ostriches-were-found-in-india-25000-years-ago-claims-study/>

5. Neolithic culture is usually marked by the development of agriculture, the domestication of animals, and the manufacture of pottery and textiles.

6. ...*From Dionysus to Sandracottus the Indians counted a hundred and fifty-three*

kings, over six thousand and forty-two years

...

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SECTION – 3

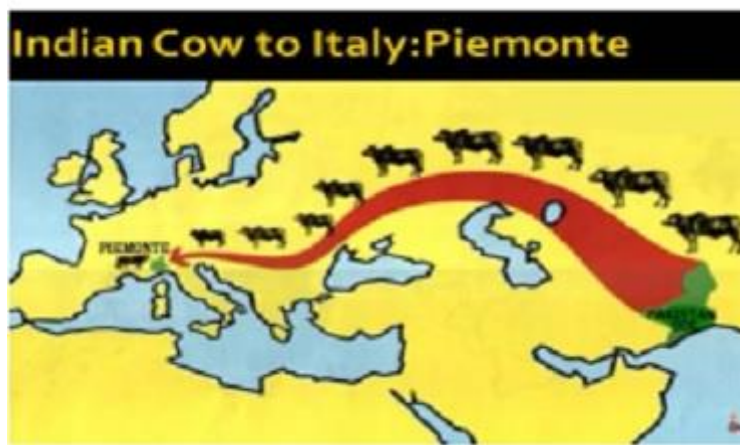
We had discussed how Indians had civilized the world. We had talked about how the R1a1a haplogroup (a genetic marker), the family that conquered the world, originated in India around 15,000 years before present [BP]. The R1a1a is generally associated with the spread of Indo-European language families and high culture, across central Asia and Europe. We had also seen that the worship of Devi Mata, or Mother Goddess is quite old, at the very least 20,000 BP and continues in an unbroken tradition even today in various parts of India. As early as 8,000 years ago, there is evidence of large scale planned habitations, urbanization, technological advances in dentistry,

astronomy, and architecture, evidence of sophisticated information storage and transmitting techniques and a reasonably well-defined stable political and governance system. In this part we focus on how Indians culturalized the world after having civilized them.

Prior to 3000 BCE

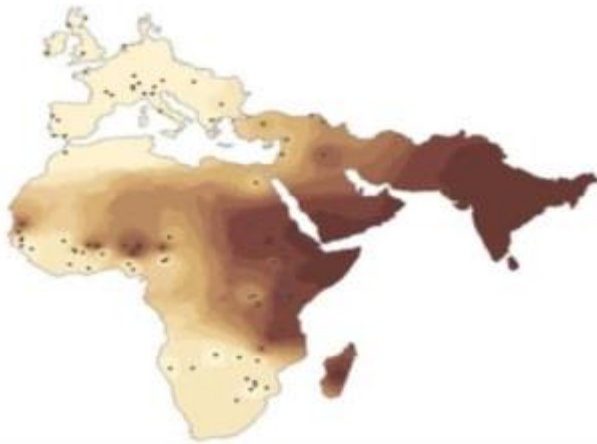
The cow is the most sacred animals of the Hindus, and has been closely associated with Indian civilization for a very long time. Indeed genetic studies of origin and migration pattern of cows globally reveal an intensely exciting human past, and especially of adventures and voyages out of India from earliest times. For example, the Piedmontese cow of Italy originated in and migrated from north-western Indian sub-continent 25,000 years ago. Since cows cannot travel alone over long distances,

humans must have migrated out of India along with cows (Zebu: *bos indicus*)(1). Whether these people left in search of food, or better life or perhaps even for the purpose of trade and commerce is speculative at best.



In fact, Indian Ocean was the first international sea-trade zone and there was a thriving trade between India and east horn of Africa as early as 20,000 years ago. Among other commodities traded, the most important one was the cow, and this has been confirmed by numerous genetic studies based on the Indian humped cow. These studies confirm that Indian humped cow,

which is found in various parts of the world like China, Africa and Europe, developed their hump out of India. Based on the geographic spread of genetic markers and given that cows cannot travel on their own across countries, scholars agree that the cows must have been traded, transported or sold by sea-route. (Priyadarshi, 2012)



Again studies have shown that all the various types of domestic mice in the world originated in India around 500,000 years ago, but they left India 15,000 years ago. These mice went out of India in three different routes:

One route is to south-east Asia and China, which matches with Munda areas

Another species went to Europe, with a route matching the R1a1a migration path

Another species went to Mediterranean areas via Iran

Now domestic mouse cannot live without man because it has evolved in such a way that it can survive only on human waste products. While humans started migrating out of India 50,000 years ago or earlier, mice migration was a relatively recent phenomena, which happened with the advent and spread of agriculture out of India around 15,000 years ago. (Priyadarshi, 2012)

Astronomy was an important part of Indian tradition, and as shown in previous parts, Hindu astronomers diligently documented

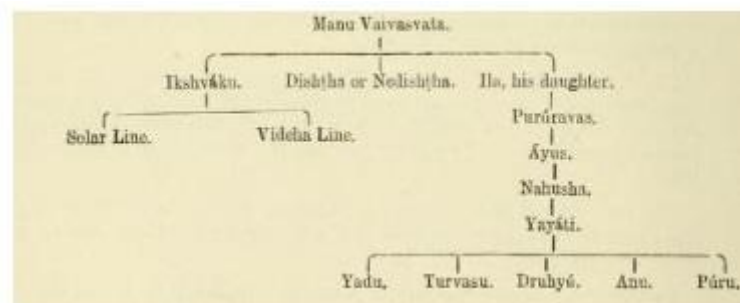
the sky and linked various aspects of the social lives of the average Indian to the motion and position of stars. The works of Greek historians, Pliny and Arrian suggests that during the Mauryan times, Indians had a well-defined calendar, the Saptarshi calendar with a beginning at 6676 B.C.E. The Atharva Veda remembers the period when the sun rose in the Rohini Nakshatra corresponding to period earlier to 4000 BCE. (Kak, 2000). Evidence of archaeo-astronomy is also seen in Harappan sites like Mohenjo-Daro-

Mohenjo-Daro and other sites show slight divergence of 1° to 2° clockwise of the axes from the cardinal directions (Wanzke, 1984). It is thought that this might have been due to the orientation of Aldebaran (Rohini in Sanskrit) and the Pleiades (Kṛttikā in Sanskrit) that rose in the east during 3000 BCE to 2000 BCE at the spring equinox; the

word “rohini” literally means rising. Furthermore, the slight difference in the orientations amongst the buildings in Mohenjo-Daro indicates different construction periods using the same traditional sighting points that had shifted in this interval (Kenoyer, 1998). Mohenjo-Daro’s astronomy used both the motions of the moon and the sun (Maula, 1984). This is attested by the use of great calendar stones, in the shape of ring, which served to mark the beginning and end of the solar year. (Kak, 2016)

Traditional Indian historical texts refer to various states spread out over Northern and some parts of eastern and central India. The state of Ikṣvāku was located towards the east and belonged to the so-called “Solar” tribe. The Puru state comprised the region of present day Haryana and parts of Western Uttar Pradesh, the Anu state comprised

Kashmir and adjoining areas, Druhyu comprised of present day northern Pakistan, Yadu comprised of Rajasthan, Gujarat, Western Madhya Pradesh and the Turvasu comprised Eastern Madhya Pradesh and Chhattisgarh. As path-breaking historian Shrikant Talageri has comprehensively demonstrated, the Arya or the Vedic Aryans refer specifically to the Bharata sub-tribe of the Puru people. They were the speakers of the Indo-Aryan or Vedic dialect of the Rig Veda. The Old Books of the Rig Veda are squarely located in the geographical region comprising Haryana and Western Uttar Pradesh, to the east of the Sarasvati River. (Talageri, 2016)



Talageri places the early old books of the Rig Veda prior to 3000 BCE. He specifically shares a conservative range of 3400-2600 BCE for the composition of Mandalas 6, 3 and 7 of the Rig Veda. Even during this Early Period, the Druhyu people are a distant memory and enemies of the Puru people. According to Puranic tradition, a large scale migration of Druhyu people took place from Punjab to Central Asia much prior to 3000 BCE when the Pauravas, Anavas and the Solar King Mandhatri of Ikshvaku dynasty, drove out Druhyu king Angara, and a later Druhyu king named Gandhara in Afghanistan after himself. (Elst, 2016) The Anavas now occupied the Punjab region and “the three great northern conglomerates of proto-Indo-European tribes in northern India had spread out in pre-Rigvedic times up to Afghanistan and Central Asia.” (Talageri, 2016)

Druhyus, the outermost of the three tribal conglomerates, represented the linguistic proto-ancestors of most of the later extra-Indian branches of Indo-European languages, Anatolian (Hittite), Tocharian, Italic, Celtic, Germanic, Baltic and Slavic. Anavas, the second tribal conglomerate, whose westward migration resulted in Iranian, Armenian, Greek and Albanian language families while the Purus, or the Vedic Aryans remained firmly within its central location in Indian sub-continent. Incidentally an example of this may be seen in European river names.

This is a normal type of hydronym, e.g. the Thames in England and the Demer in Belgium mean “dark (river)” as well, both names being cognates of Sanskrit *tamas*, “darkness”. (Elst, 2016)

King Bharata, after whom our country is named and who presided over the start of the Vedic corpus is already an ancient figure in the earliest books, and must have lived much before 3000 BCE. The Rig Veda also mentions Manu as an ancient figure and law-giver and as Koenraad Elst points out “the idea of a normative system established anciently by Manu, though its details must have evolved, was already present in the Veda.” The very first generation of Vedic poets are Bharadvāja (main seer of Mandala 6), Dīrghatamas, Agastya and Vasiṣṭha. (Elst, 2016)

3000 BCE

Indian sub-continent during this period was divided into three distinct zones with differing levels of civilizational advancement:

Urbanizing culture of Sarasvati-Sindhu civilization in the North-west

Copper and copper/bronze age cultures in the central and north India

Agriculture based societies of south and east India

As per Indian calendar, Kali Yuga began in 3102 BCE, four months after Lord Krishna left his body(2) (3). This was a period of great progress and achievements, and tremendous strides were made in the fields of architecture, metallurgy, town-planning, administration and large-scale urbanization and corresponds roughly to the end of the Early Harappan and the beginning of Mature Harappan phase of the Sindhu-Sarasvati civilization. Large agricultural surpluses produced as a result of flood-supported farming supported the development of urban centers like Harappa, Ganeriwala, Mohenjo-

Daro in modern-day Pakistan, and Dholavira, Kalibangan, Rakhigarhi, Rupar, and Lothal in modern-day India. During this time another important event was the composition of the New Books of the Rig Veda, which form a continuum with the Old Books, and are together located in the huge geographical area comprising Western Uttar Pradesh, Haryana, Punjab, northern India and eventually to north-western Indian subcontinent, southern and eastern Afghanistan. (Talageri, 2016)

India confronts Egypt and Babylonia by the 3rd millennium with a thoroughly individual and independent civilisation of her own, technically the peer of the rest. And plainly it is deeply rooted in Indian soil. The Indus civilisation represents a very perfect adjustment of human life to a specific environment. And it has endured; it is already specifically Indian and forms the

basis of modern Indian culture. – V. Gordon Childe, *New Light on the Most Ancient East* (1952)

The Shatapatha Brahmana, associated with the Shukla Yajur Veda, points to a period of 2950 BCE when it mentions that at that time Krittika did not swerve from the east. (Kak, 2000) TRS Prasanna of IIT Bombay has demonstrated that Kaushitaki Brahmana [KB 19.3], associated with the Rig Veda and the Shatapatha Brahmana [SB 11.1.1.17] both point to a period of 3000 BCE based on the fact that Magha and Vaishaka new-moons are three months apart, and that winter solstice is marked by Magha new-moon. It is also at this time when Shaivism started becoming an important pan-Indian tradition and the origin of Mahashivaratri may be traced back to 3000 BCE. (Prasanna, 2011) The Pashupati Seal discovered at Mohenjo-Daro is purported to be one of the

earliest depictions of Shiva or Rudra, and associated with yoga and regarded as a lord of animals (pashupati).



In fact there are many aspects of Indian Hindu life today which can be seen in the Sarasvati-Sindhu seals of 5000 years ago and in a sense there is a cultural continuity between then and now. For example, a terracotta figure of a female shows the application of sindoor, which even today married women across India apply along the middle parting of their hair. The idea of respectfully greeting each other with hands pressed together, palms touching and fingers

pointing upwards, and thumbs close to the chest (Namaste) can be found in numerous Harappan seals. Swastika, which is a very auspicious Hindu symbol is also seen in numerous Harappan seals. However as Danino points out, it is difficult to say whether the symbolism that existed then is the same as that which exists today, but the continuity between India today and India 5000 years ago cannot be denied. (Danino, 2012)



Construction of the world's first international trading port started in Lothal in Gujarat, and from there ships sailed to

Arabia, Iran, Africa and Babylonia, carrying with them not just goods but also people and ideas thereby contributing to the spread of culture and advanced civilizational best practices. The Sarasvati, whose tributaries included the Yamuna and the Sutlej, was in full flow and the huge Harappan civilization flourished on its banks. The Rig Veda has many hymns in praise of Sarasvati River and refers to it as the best of rivers.

*ambitame nadītame devitame sarasvati /
apraśastā iva smasi praśastim amba nas
kṛdhi // (4)*

2500 BCE

After the Battle of the Ten Kings, the Anavas or the proto-Iranian speakers who were residents of the areas to the west of Kurukṣetra (i.e. the Punjab) started expanding west-wards and the center of the

Anava culture gradually shifted from Punjab to Afghanistan. At this stage there was another important battle known as the Vārṣāgira battle.

...the confrontation took place on the then borderline between Vedic-Indian and Afghan-Iranian territory, beyond the Sarayu river (RV 4:30:18) near the Bolan pass in southern Afghanistan ...The result of this “victory” is that the kings of both sides survive the battle (as we shall see), that the division of territory remains the same, and that the chroniclers of both sides can give their own versions to claim victory. (Elst, 2016)



As Elst points out, while in terms of geopolitical implications, it resulted in status quo being maintained, the significance lies in the fact that this is the earliest battle which is recorded independently in the Indian as well as Iranian tradition. The founder of Zoroastrianism, Zarathustra's patron Vištāspa, is said to have fought in this battle (Ābān Yašt, Yt.5.109, 5.113, 9.130). Vištāspa is also mentioned in RV.I.122.13 as Istāśva, and the profound implication of this is that Zarathuštra was contemporaneous with the Vārṣāgira battle and lived closer to 2500 BCE rather than 6th century BCE as he is generally dated by western historians.

By the end of third millennium BCE, a common culture corresponding to the Late Rig Vedic period was already in place encompassing:

- . Culture of Books 5, 1, 8, 9, 10 of Rig Veda
- . Zend Avesta
- . Residual elements of Kassite and Mitanni people of West Asia

Now the Mitanni people are a very fascinating historical people of Iraq because of their undeniable Vedic connection. The Mitanni kingdom in northern Iraq/Syria dated to 1460-1330 BCE and the Kassites whose conquest of Mesopotamia is dated to 1677 BCE provide tangible evidence of westward migration of Indians. The Mitannis spoke the Hurrian language which had a lot of Indo-Aryan loan-words and the names of their rulers also had Indo-Aryan names. The Kassites spoke an altogether unknown language, but some of their names are definitely IA words. Not only did Indians migrate west, they held dominant leadership positions in West Asia and ruled

over large swathes for a long time and influenced their culture. Talageri argues that the ancestors of the Iranians and the Mitanni migrated from within India during the period of composition of the New Books of the Rigveda long before 2000 BCE(5).

While the Mitanni kingdom was also situated in Iraq, the Mitanni kings were descendants of a people who had left the ancestral Vedic areas sometime during the period of the New Books of the Rigveda, and, although they retained their ancestral names and perhaps some ancestral skills (horsemanship, etc.) and religious items (the names of some Vedic Gods), had, by and large, become completely West-Asianized and had lost all contacts with their ancestral areas. (Talageri, 2016)

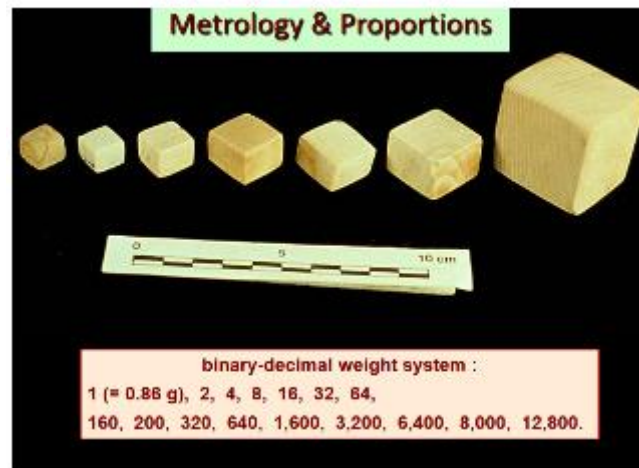
Mature Harappan Phase began around 2600 BCE and covered 1 million sq. km over

1200 sites. Urban and well-planned they extended from Indus River in Sindh, covering Punjab, Haryana, to western Uttar Pradesh, and Gujarat. The cities were extremely well-planned with sophisticated civic administration. Danino says (Danino, 1999):

What impressed the first discoverers of Harappan cities most was their sophistication, which displayed town-planning of a level that would be found only 2000 years later in Europe. Geometrically designed, the towns had fortifications (for protection against both intruders and floods), several distinct quarters, assembly halls, and manufacturing units of various types ; some bigger cities had furnaces for the production of copper tools, weapons or ornaments ; public baths (probably often part of temples), private baths for most inhabitants, sewerage through underground

drains built with precisely laid bricks, and an efficient water management with numerous reservoirs and wells show that the ordinary inhabitant was well taken care of. Mohenjo-Daro, for instance, is thought to have had over 700 wells, some of them fifteen metres deep, built with special trapezoid bricks (to prevent collapse by the pressure of the surrounding soil), and maintained for several centuries.

Knowledge of town planning, efficient municipal government, focus on hygiene (and ritual purity), hydraulic engineering, waste water management, port management, food storage facilities, standardized system of weights and measures and extensive trade network were some of the key features of this civilization(6). These same standard weights and measures are later also seen in Kautilya's Arthashastra almost 2000 years later which is a remarkable achievement (7).



Trade relations between Harappans and Mesopotamia, Iran, Bahrain and Oman flourished and many exclusively Indian townships and colonies came up in these locations. There was close interaction between Harappans and Ganga Plain people, and there is evidence of extensive internal as well as external trade. The earliest evidence of silk in India (and outside China) was found in Chanu-Daro datable to 2,200 BCE.

Iron Age in India is generally believed to have started earlier than rest of the world.

Earlier it was understood that the Iron Age came into being in India around 1,800 BC in the Lahuradeva site in Uttar Pradesh.

However the discovery of iron artefacts in University of Hyderabad campus dated to 1800 BCE and 2400 BCE, pushed the date back by at least another 6 centuries.

Iron Age may have come into existence in Telangana much before the rest of the world. At least that's the conclusion reached by archaeologists excavating the University of Hyderabad campus who found iron artefacts dating back to roughly 2,200 BC... This, he said, predates the existing understanding about the advent of the Iron Age in the country. Worldwide, experts have put the dawn of the age around 1200 BC, marking the time when humans started exploiting metals to make basic tools (8).

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<http://isha.sadhguru.org/blog/yoga-meditation/science-of-yoga/kali-yuga-end-lies-ahead/>

Traditionally it is believed that the Mahabharata War in Kurukshetra ended in 3140 BCE.

Best mother, best of rivers, best of goddesses, Sarasvati; we are, as though without praise, O mother, make us praised.

<http://talageri.blogspot.in/2016/05/normal-0-false-false-false-en-us-x-none.html>

http://www.vecc.gov.in/writereaddata/upload/colloquia/Technology_in_Indus_Civilization.pdf

The first seven weights in the system followed a geometrical progression, with ratios of 1 : 2 : 4 : 8 : 16 (by which time the weight had reached 13.7g) : 32 : 64, after which the increments switched to a decimal system and went 160, 200, 320, 640, 1600, 3200, 6400, 8000 and 12,800. The largest weight found in Mohenjo-Daro is 10,865 grams. Now, if you divide its corresponding ratio of 12,800 by the ratio 16, you get 800 ; multiply this figure by the weight of 13.7 g found for the 16th ratio, and you get a theoretical weight of 10,960g — a difference of only 95g with the actual weight, or less than 0.9% ! I don't think the weights used today in our markets reach such precision, not to speak of those traders who get their weights tailor-made! (Danino, 1999)

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